

Listing of Claims:

1. (previously presented) A method for micromachining a structure, said method comprising selectively removing at least a portion of the structure by chemical mechanical polishing to form a product structure, wherein the product structure is at least partially non-planar and wherein the product structure includes a highest point and a lowest point, and has a height differential between the highest point and the lowest point of 0.5 microns or greater.

2. (previously presented) The method of claim 1 wherein the product structure is formed on an essentially planar substrate.

3. (original) The method of claim 1 wherein said chemical mechanical polishing step is conducted using a chemical mechanical polishing apparatus that includes a polishing pad.

4. (original) The method of claim 3 wherein said removal is by a combination of chemical etch and mechanical polishing.

5. (original) The method of claim 4 wherein said mechanical polishing is controlled by varying at least one characteristic of the polishing pad.

6. (original) The method of claim 5 wherein said characteristic of the polishing pad is stiffness.

7. (original) The method of claim 6 wherein said stiffness is manipulated by downforce on the pad, rotational velocity of the pad, acceleration velocity of the pad, local curvature of the pad, or combinations thereof.

8. (previously presented) The method of claim 1 wherein a concave product structure is formed.

9. (previously presented) The method of claim 1 wherein a convex product structure is formed.

10. (previously presented) The method of claim 1 wherein a rounded product structure is formed.

11. (previously presented) The method of claim 7 wherein local curvature on the pad is provided by pre-shaped asperities.

12. (original) The method of claim 7 wherein local curvature on the pad is provided by bumps under the pad.

13. (canceled)

14. (previously presented) The method of claim 1 wherein the height differential between the highest point and the lowest point is 1 micron or greater.

15. (previously presented) The method of claim 1 wherein the height differential between the highest point and the lowest point is 2 microns or greater.

16. (previously presented) A partially non-planar product structure fabricated by the method of claim 1.

17. (original) A microlens array fabricated by the method of claim 1.

18. (original) An optical fiber array connector fabricated by the method of claim 1.